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DEVELOPMENT OF MATTRESS CONTAINERS FOR HOUSEHOLD GOODS SHIPMENT--ETC(U)  
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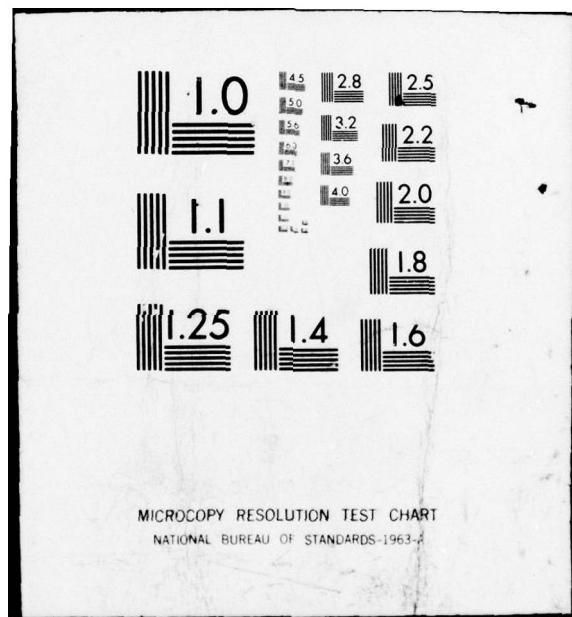


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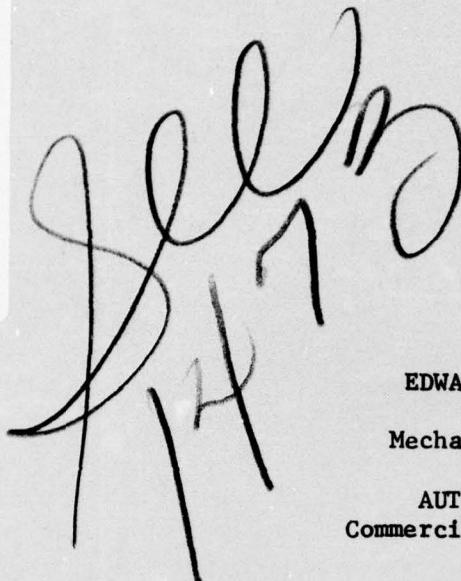
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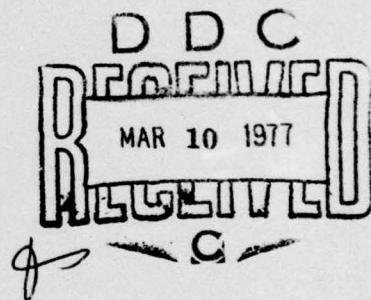
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DEVELOPMENT OF MATTRESS CONTAINERS  
FOR HOUSEHOLD GOODS SHIPMENTS

AFALD/PTPD  
AIR FORCE PACKAGING EVALUATION AGENCY ✓  
Wright-Patterson AFB OH 45433

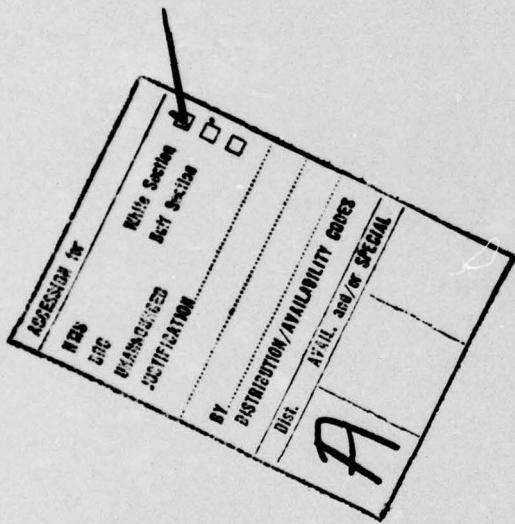
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## ABSTRACT

A need exists to reduce costs associated with household goods shipments. One of the high cost items is the carton required to provide protection, for reasons of personal hygiene, to mattresses/box springs. Bags fabricated from Kraft paper, polyethylene, and spunbonded Olefin materials were used to encase the mattress/box spring. The encased items were then placed in used cartons for service test shipments. The Transportation Office received no response from the customers as a result of the service test shipments; however, the Air Force Packaging Evaluation Agency (AFPEA) evaluation indicated that both the 70 pound Kraft paper and spunbonded Olefin bags as an overpack would adequately protect mattresses/box springs in shipment.



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## INTRODUCTION

PURPOSE: There is a valid need to reduce assessorial costs associated with the preparation of household goods for shipment. The intent of this project was to determine a more cost effective packaging approach for the shipment of mattresses/box springs.

BACKGROUND: One of the high cost items associated with every shipment of household goods is the requirement to provide physical and environmental protection to mattresses/box springs. The fiberboard carton currently used, in accordance with personal property traffic management regulation DOD 4500.34.R, Section II, is not cost effective because it is non-reusable. To evaluate possible savings from reused cartons, service test shipments were made by carriers for DoD customers. Mattresses/box springs encased in a bag were placed in a used carton as test specimens and shipments were made to CONUS and oversea destinations.

## TEST AND EVALUATION

### DESCRIPTION OF TEST SPECIMENS:

Single weight 50 and 70 pound Kraft paper, 4 mil polyethylene, and spunbonded olefin material bags with self-adhesive flaps were used in the following mattress/box spring sizes:

Crib	28 1/2" x 5" x 61 1/2"
Twin	34" x 5" x 75"
Three/Fourth	38 1/2" x 7 1/2" x 85"
Full	53 1/2" x 7 1/2" x 85"
Queen	61" x 8" x 91"
King	74" x 8" x 95"

Mattresses/box springs used in the tests were actual shipments of DoD personnel household goods shipments.

### TEST PROCEDURES:

Twelve opinion survey agreements were made with DoD customers to service test their mattresses/box springs with serviceable used cartons

and new bags during transit of household goods by a carrier/contractor.

A survey form, with questions to determine the feasibility of reusing mattress/box spring cartons, was included with the household goods shipment to be evaluated by the customer and to be returned to the Transportation Branch Logistics Squadron, Wright-Patterson AFB OH 45433.

RESULTS:

One survey form, with no comments, was returned to the Transportation Branch. An effort was made to retrieve data from the eleven remaining participants; however, no information was received.

CONCLUSIONS

Although no customer feedback was received, it can be assumed that the test shipments made using the suggested method of protecting mattresses/box springs were satisfactory. The area of household goods is highly subject to complaints if any problems are identified by the customer.

Evaluation conducted on materials at the Air Force Packaging Evaluation Agency indicates the following:

- a. The use of 70 pound Kraft bags with a self-adhesive flap for closure along with a clean used carton is an acceptable method for household goods shipment of mattresses/box springs.
- b. Polyethylene bags do not perform well because of condensation problems.
- c. Spunbonded olefin material bags have the following advantages over the Kraft bags:
  1. Water and chemical resistant
  2. Rot and mildew resistant
  3. Higher tear, bursting, and tensile strength
  4. Good flexibility

RECOMMENDATIONS

As a result of work conducted thus far it is recommended that:

- a. Further service testing should be conducted on the 70 pound Kraft and spun bonded olefin material bags by the Transportation Branch Logistics Squadron, Wright-Patterson AFB OH 45433. (Bags are available for additional service tests by customer/carrier.)
- b. DoD customers be alerted as to the urgent need for their comments on the shipment of mattresses/box springs.
- c. Cartons be annotated as "Test Shipment - Reply Required" to alert the destination Traffic Management Office (TMO).
- d. Customers coordinate with the destination TMO for return of survey information from the service test shipment.
- e. Calculated cost avoidance savings be completed and presented to DoD traffic manager for consideration of revision to DoD Regulation 4500.34R for use of mattress/box spring overwrap and used carton combination for household goods shipment.

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20. ABSTRACT (Cont'd)

*cont.* → however, the Air Force Packaging Evaluation Agency (AFPEA) evaluation indicated that both the 70 pound Kraft paper and spunbonded Olefin bags as an overpack would adequately protect mattresses/box spring in shipment. ↗

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